

WHAT IS CLAIMED IS:

1. A shift control apparatus for a transmission comprising:

a gear shift lever configured to undergo movement in a first direction and in a second direction;

5 a plurality of shift lugs disposed within a transmission and configured to realize specific speed ratios according to its longitudinal movement;

a housing;

a control shaft disposed within the housing and provided with at least one control finger at a lower portion thereof, the control shaft configured to be able to move
10 in a longitudinal direction thereof such that the control finger can be positioned on the shift lugs, and the control shaft configured to be able to rotate such that the control shaft can move the shift lugs;

a select control assembly connected to the gear shift lever and the control shaft such that the control shaft moves in the longitudinal direction thereof responding to a
15 movement of the gear shift lever in the first direction; and

a shift control assembly connected the gear shift lever and the control shaft such that the control shaft rotates responding to a movement of the gear shift lever in
the second direction.

2. The shift control apparatus of claim 1, wherein a first through hole is
20 formed in the housing,

and wherein the select control assembly comprises:

a select control shaft rotatably inserted into the first through hole;

a select control lever fixedly connected to an upper portion of the select control shaft;

25 a select control cable connecting the gear shift lever and the select control lever together such that the select control lever and the select control shaft rotate responding to the movement of the gear shift lever in the first direction;

a connecting plate, one end of which is fixedly connected to a lower portion of the select control shaft;

30 a pin member, an upper portion of which is fixedly connected to the other end of the connecting plate at a lower portion thereof;

a select shoe into which a lower portion of the pin member is rotatably inserted;
and

a select shoe guide fixedly coupled to the control shaft and being provided with
a select shoe guide channel within which the select shoe is slidably disposed.

5 3. The shift control apparatus of claim 2, wherein the select shoe is made
of a plastic material.

4. The shift control apparatus of claim 2, wherein the select shoe guide
channel is formed along a circumferential direction of the control shaft.

10 5. The shift control apparatus of claim 2, wherein the select control shaft
is disposed above the control shaft and away by a predetermined distance from a
longitudinal center axis of the control shaft

6. The shift control apparatus of claim 1, wherein a second through hole is
formed in the housing,

and wherein the shift control assembly comprises:

15 a shift control shaft rotatably inserted into the second through hole;

a shift control lever fixedly connected to an upper portion of the shift control
shaft;

20 a shift control cable connecting the gear shift lever and the shift control lever
together such that the shift control lever and the shift control shaft rotate responding to
the movement of the gear shift lever in the second direction;

a connecting plate, one end of which is fixedly connected to a lower portion of
the shift control shaft;

a ball member, an upper portion of which is fixedly connected to the other end
of the connecting plate at a lower portion thereof;

25 a shift shoe into which a lower portion of the ball member is rotatably inserted;

and

a shift shoe guide fixedly coupled to the control shaft and being provided with a
shift shoe guide channel within which the shift shoe is slidably disposed.

7. The shift control apparatus of claim 6, wherein the shift shoe is made

of a plastic material.

8. The shift control apparatus of claim 6, wherein the shift shoe guide channel is formed along a longitudinal direction of the control shaft.

5 9. The shift control apparatus of claim 6, wherein the shift control shaft is disposed above the control shaft.

10. The shift control apparatus of claim 6, wherein the control shaft is provided with a forward speed ratio finger and a reverse speed ratio finger, and the reverse speed ratio finger is integrated with the shift shoe guide.

10 11. The shift control apparatus of claim 6, wherein the shift control assembly further comprises a first mass and a second mass that are respectively coupled to ends of the shift control lever.

15 12. The shift control apparatus of claim 11, wherein the shift control cable is pivotally connected to the shift control lever near a position where the first mass is coupled to the shift control lever, and wherein the shift control shaft is coupled to the shift control lever at a position between a position where the first mass is coupled to the shift control lever and a position where the second mass is coupled to the shift control lever.

20 13. The shift control apparatus of claim 12, wherein the second mass is configured such that a rotating center of the shift control lever is positioned at a position where the shift control shaft is coupled to the shift control lever.

14. The shift control apparatus of claim 1, further comprising a first elastic member and a second elastic member that elastically support the control shaft in opposite directions.

25 15. The shift control apparatus of claim 14, wherein the first and second elastic members are coil springs.

16. The shift control apparatus of claim 1, wherein the plurality of shift

lugs comprises at least one forward speed ratio shift lug, and wherein the control shaft is provided with a forward speed ratio finger for moving the forward speed ratio shift lugs and a reverse speed ratio finger for moving the reverse speed ratio shift lug.